Remarks

Claims 1 and 3 to 25 are pending in the application, of which claims 1, 17 and 25 are independent claims. Claims 1, 3, 4 and 9 are amended herein. No Claims are canceled. No new Claims have been added. Reconsideration and further examination are respectfully requested.

No new matter is believed to have been introduced to the application by this amendment. The changes to the claims are fully supported by the original disclosure, including, for example, original paragraphs [0042] and [0049].

Claim Objections

Claims 3, 4 and 9 were objected to for depending from cancelled Claim 2.

With this paper, Applicant has amended Claims 3, 4 and 9 to depend from independent Claim 1. In light of the amendments presented herein, reconsideration and withdrawal of the objection is respectfully requested.

Claim Rejections – 35 U.S.C. §103

Claims 1, 3 to 7, 9 to 21 and 23 to 26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Halvorson (US Patent No. 4847764), Allen, III (US Patent No. 4731726, hereinafter "Allen") and Bui et al. (U.S. Pub. No. 2003/0140928 A1, hereinafter Bui). Claims 8 and 22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Halvorson, Allen and Kaufman et al. (US Patent. No. 5267174, hereinafter "Kaufman"). These rejections are hereby traversed and reconsideration and withdrawal thereof are respectfully requested.

Independent Claim 1

Independent Claim 1 relates to a patient care system, comprising a plurality of medication administration devices for delivering medication to a plurality of patients, a first central processing unit (CPU) located at a patient's bedside and in communication with a subset of the plurality of medication administration devices and configured to monitor the subset of the plurality of medication administration devices and display results of the monitoring. The system further comprises a memory associated with each medication administration device for storing medication administration information associated with the medication delivered to each patient,

the medication administration information including a plurality of medication administration parameters and a parameter value associated with each medication administration parameter. The system further comprises a second CPU in communication with the first CPU over a hospital network, the second CPU located at a nursing station and configured to report patient information pertaining to a hospital unit. The system further comprises a central processor configured to receive medication administration information from each of the plurality medication administration devices, a central computer display connected to the central processor and configured to display a color coded display of status and schedule information for all drug administrations to the plurality of patients, a database operatively connected to the central processor for storing medication administration guidelines representing acceptable values for the plurality of medication administration parameters, and means for communicating medication administration information from each of the plurality of medication administration devices to the central processor. The first CPU is configured to receive an alarm generated by one of the subset of the plurality of medication administration devices and broadcast the received alarm after a predetermined period. The central processor is further configured to compare the parameter values to the acceptable values for the parameters in the medication administration guidelines. The central processor is further configured to display a list of ongoing infusions to the plurality of patients. The central processor and the CPU are communicatively coupled via a local area network.

The cited references are not seen to teach at least a patient care system having "a first CPU located at a patient's bedside," "a second CPU in communication with the first CPU over a hospital network, the second CPU located at a nursing station and configured to report patient information pertaining to a hospital unit," and "wherein the first CPU is configured to receive an alarm generated by one of the subset of the plurality of medication administration devices and broadcast the received alarm after a predetermined period," as recited in amended Claim 1.

Turning now to the applied references, Halvorson discloses a system for controlling the inventory of medications in a health care institution (technical field of the invention). Halvorson's system includes electro-mechanical dispensers 32 located at nursing stations and having a video display unit 30 for displaying data. Halverson's disclosed processor is within a dispenser 32 located at a nursing station. Halvorson is not seen to teach "a first CPU located at a patient's bedside," with which the processor at the dispenser 32 communicates over a hospital

network. Halverson also does not teach or suggest the presence of a bedside CPU configured to receive an alarm and broadcast the alarm after a predetermined period.

Allen is not seen to remedy the above-discussed deficiencies of Halvorson. Allen teaches a patient-operated glucose monitor and diabetes management system (title). Allen's system teaches establishing communication between a physician's computer 102 and a modem 106 at a patient residence. However, Allen's communication channel 105 between the computer 102 and modem 106 is not seen to be a hospital network but an external communication channel such as a modem connection for communicating with modem 106 that is located outside a physician's network. Allen is also silent about teaching or suggesting receiving an alarm and broadcasting the received alarm after a predetermined amount of time.

Bui discloses a medical treatment verification system and method that includes a pharmacy computer 104 communicating with a central system 100 and a treatment location 106. While Bui recognizes that the disclosed patient care system 100 may include a nursing station (paragraph [0015]), there is not teaching or suggestion regarding "[a] second CPU located at a nursing station and configured to report patient information pertaining to a hospital unit. Furthermore, Bui is also silent about teaching or suggesting receiving an alarm and broadcasting the received alarm after a predetermined amount of time.

At least for the reasons presented above, Halvorson, Allen and Bui, either alone in combination, are not seen to teach at least the above-discussed features of amended independent Claim 1.

Independent Claim 17

Claim 17 relates to a computer-implemented method for centralized monitoring of medication administration for a plurality of patients, comprising monitoring medication administration information associated with medication delivered to each patient, the medication administration information including a plurality of medication administration parameters and a parameter value associated with each medication administration parameter, storing a database of medication administration guidelines representing acceptable values for the medication administration parameters, communicating the medication administration information and the medication administration guidelines to a central location, comparing, on a computer at the central location, the parameter values to the acceptable values for the parameters in the medication administration guidelines, said acceptable values comprising a soft limit and a hard

limit, operating a medication administration device by issuing an alarm if one of said parameter values contravenes its corresponding hard limit; and providing, using the computer at the central location, a visual indication on a computer display at the central location if one of the parameter values contravenes its corresponding soft limit in the medication administration guideline, and requiring an acknowledgment from a user before operating the medication administration device using a medical administration parameter contravening a corresponding soft limit.

The Office Action concedes that Halverson does not teach the claimed monitoring medication administration information step of Claim 17. *See*, Office Action, p. 15, ll. 9-10. The Office Action cites Allen (claim 1) as teaching the claimed monitoring feature. Applicant respectfully disagrees. Allen is seen to teach monitoring a diabetes patient's blood sugar level, and generating recommendations for insulin dosage base. Such monitoring of physiological parameters cannot be fairly considered to teach or suggest monitoring of medication administration parameters. By disclosing that the monitoring system comprises an input means to enter administered drug information, even Allen seems to distinguish the monitoring function from the administering function. Allen is therefore not seen to be silent monitoring medication administration parameters.

The Office Action states that Halvorson's Figures 4 to 25 and related text teaches the soft and hard limits recited in the present application. Applicant has carefully reviewed the Halverson art, which Applicant does not see as teaching soft limits and hard limits on acceptable values of parameters in the medication administration guidelines. Applicant therefore respectfully submits that the Office Action has failed to establish that the art of record teaches "comparing, on a computer at the central location, the parameter values to the acceptable values for the parameters in the medication administration guidelines, said acceptable values comprising a soft limit and a hard limit," as recited in Claim 17 of the present application. Reconsideration and withdrawal of the 35 U.S.C. § 103 rejection of Claim 17 are respectfully requested.

Independent Claim 25

Claim 25 relates to a computer implemented method of administering medication to a patient in a hospital. The method comprises: reviewing, at a pharmacy computer, a medication order prescribed by a physician, checking, at the pharmacy computer, the medication order for incompatibilities with the patient's record, transferring the medication order to a nursing station

following the checking for incompatibilities, programming a clinical device connected to the patient and communicatively coupled with the pharmacy computer with medication delivery parameters, verifying, at the pharmacy computer, the medication delivery parameters, and if the verification passes, then administering the medication order to the patient using the clinical device according to the verified medication delivery parameters, and if the verification fails, then sounding an alarm at the pharmacy computer, allowing a user to correct or override, in real-time, the medication delivery parameters; and administering the medication order to the patient using the clinical device according to the corrected or overridden medical delivery parameters.

Halvorson discloses certain limits on medication dispensing, e.g., limiting minimum and maximum times between dosages, number of days or maximum number of times of a dosage. *See*, Halverson, column 5, lines 27-29, However, these limits do not teach or suggest two type of limits: a soft limit and a hard limit on medication parameters, as in amended Claim 17 of the present application. Having two different limits on medication delivery parameters advantageously balances between the need to stop medical fluid administration if treatment parameters are outside rules and protocols of a hospital, yet at the same time allow a medical professional to use professional judgment to override such disruptions, as appropriate. Furthermore, Halvorson teaches that medication dispensing contravening the limits are reported by producing a report, allowing a physician to renew medication orders (column 5, lines 29-34). In contrast, amended Claim 17 of the present application recites medication administering comprising "an acknowledgment from a user before operating the medication administration device using a medical administration parameter contravening a corresponding soft limit." In other words, while Halvorson requires a user to "renew" relevant medication parameters (e.g. a prescription), the present invention allows the use of existing medical parameters by medical personnel acknowledging the use. As discussed at several places in the present application (e.g., paragraphs [0050] and [0064]), such a feedback method is advantageous in real-time monitoring of medication administration. Furthermore, because Halvorson requires off-line activity by a user, for example, renewal of a prescription by a doctor, Halvorson does not fairly teach or suggest "allowing a user to correct or override, in real-time, the medication delivery parameters; and administering the medication order to the patient using the clinical device according to the corrected or overridden medical delivery parameters," as recited in Claim 25 of the present application.

The Office Action concedes that Halvorson does not disclose the claimed step of "allowing a user to correct or override, in real-time, the medication delivery parameters" recited in Claim 25 of the present application. The Office Action states that Allen, column 27, ll. 30-50, teaches the claimed step of allowing a user to override medication delivery parameters. Applicant respectfully submits that this argument fails for at least two reasons. First, Allen is seen to teach or suggest that a user is simply allowed to correct insulin dosage information that is to be reported. The insulin intake of a user is not seen to be a medication delivery parameter disclosed in the present application. Second, the user's input is not used to administer the medication using the corrected parameter value, as in the present application, but is seen merely to improve accuracy of reporting insulin intake of a patient. In this regards, Bui is not seen to help addresses the deficiencies of Allen and Halvorson because Bui is silent about allowing a user to override medication delivery parameters if verification fails.

Based on the above arguments, it is respectfully submitted that Claim 25 is allowable over the combination of Halverson, Allen and Bui. Reconsideration and withdrawal of the 35 U.S.C. § 103 rejection of Claim 25 are respectfully requested.

The other claims currently under consideration in the application are dependent from their respective independent claims 1 or 17 discussed above and therefore are believed to be allowable over the applied references for at least similar reasons. Because each dependent claim is deemed to define an additional aspect of the invention, the individual consideration of each on its own merits is respectfully requested.

The absence of a reply to a specific rejection, issue, or comment does not signify agreement with or concession of that rejection, issue, or comment. In addition, because the arguments made above may not be exhaustive, there may be other reasons for patentability of any or all claims that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment or cancellation of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment or cancellation.

In light of the amendments and remarks above, this application should be considered in condition for allowance and the case passed to issue. If you have any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 502624 and please credit any excess fees to such deposit account.

Respectfully submitted,
McDERMOTT WILL & EMERY LLP

/John A. Hankins/

John A. Hankins
Registration No. 32,029
Please recognize our Customer No. 80236 as our correspondence address.

11682 El Camino Real, Suite 400
San Diego, CA 92130
Phone: 858.720.3300 JAH/nsn
Facsimile: 858.720.7800
Date: March 11, 2010

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